IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) An electronic measuring device for detecting a process variable connectable to a two-wire line for providing the supply energy and for digital communication with a process control, ~~and for this purpose in particular,~~ comprising

a two-wire terminal, ~~and including~~

a sensor ~~means for measuring~~ adapted to measure the process variable,

a controlling device for controlling components of the sensor ~~means~~,

a voltage measuring device for measuring ~~the~~ supply voltage applied through the two-wire line, and

a current control unit ~~by means of which the~~ adapted to supply input current for ~~supplying~~ the measuring device can be appropriately set as a function of the supply voltage measured by the voltage measuring device, so that the input current is adapted corresponding to the actual power demand during a time that is not detrimental to the communication.

2. (Currently Amended) The electronic measuring device of claim 1, ~~wherein~~ further comprising a device for determining ~~the instantaneous~~ an instantaneous power loss ~~is present~~, ~~and~~ wherein the controlling device connected with said device for determining an instantaneous power loss and ~~the current control unit~~ a predetermining ~~a~~ variable desired value for the current control unit sets as a function of the determined power loss.

3. (Currently Amended) The electronic measuring device of claim 1, wherein ~~a pre-given maximum value for the input current may be given to~~ the current control unit receives a pre-given maximum value for the input current.

4. (Currently Amended) The electronic measuring device of claim 2, wherein the device for determining ~~an~~ the instantaneous power loss is connected with a capacitor so as to measure the temporal development of the voltage at the capacitor and thereby the power loss.

5. (Currently Amended) The electronic measuring device of claim 2, wherein the device for determining the instantaneous power loss includes a micro-controller, an A/D converter connected with said micro-controller, and a capacitor connected upstream of an ultrasonic transmitter for storing energy for the sensor ~~means~~.

6. (Currently Amended) The electronic measuring device of claim 1, ~~wherein~~ further comprising a device to determine ~~is present by means of which~~ the frequency of occurrence of sensor excitements ~~can be determined~~ without performing a measurement.

7. (Currently Amended) The electronic measuring device of claim 1, ~~wherein~~ further comprising a current limiter ~~limiting means is present~~ connected with the current control unit.

8. (Currently Amended) The electronic measuring device of claim 1, wherein the sensor is adapted to dissipate a power loss due to a power demand excess is dissipated by a controlled output of a pulse ~~by the sensor means without entailing a measurement~~.

9. (Original) The electronic measuring device of claim 1, wherein a power loss due to a power demand excess is transformed into heat.

10. (Original) The electronic measuring device of claim 1, wherein a power loss due to a power demand excess is determined through a current sensing resistor within the current control unit.

11. (Currently Amended) An electronic measuring device for detecting a process variable connectable to a two-wire line for providing the supply energy and for digital communication with a process control, ~~and for this purpose in particular,~~ comprising

a two-wire terminal, ~~and including~~

a sensor ~~means~~ for measuring the process variable,

a controlling device for controlling components of the sensor ~~means~~, and

a current control unit ~~by means of which the~~ to set current drawn ~~by the measuring device~~ through the two-wire line terminal ~~can be appropriately set~~ as a function of the current drawn by the sensor ~~means~~ so that the current is adapted corresponding to actual power demand and is not detrimental to the communication.

12. (Original) The electronic measuring device of claim 11, wherein the current control unit includes two controls, one keeping the total current constant, and one providing for the fact that a little current is flowing through a shunt arm at all times.

13. (Currently Amended) The electronic measuring device of claim 11, wherein the current control device includes a device for determining an instantaneous power loss ~~is present~~, and the controlling device connected with said device for determining an instantaneous power loss and the current control unit predetermining a variable desired value ~~for the current control unit~~ as a function of the determined power loss.

14. (Original) The electronic measuring device of claim 13, wherein the device for determining an instantaneous power loss is connected with a capacitor so as to measure the temporal development of the voltage at the capacitor and thereby the power loss.

15. (Currently Amended) The electronic measuring device of claim 13, wherein the device for determining an instantaneous power loss includes a micro-controller, an A/D converter connected with said micro-controller, and a capacitor connected upstream of an ultrasonic transmitter for storing energy for the sensor ~~means~~.

16. (Original) The electronic measuring device of claim 11, wherein a device is present by means of which the frequency of occurrence of sensor excitements can be determined without performing a measurement.

17. (Currently Amended) The electronic measuring device of claim 11, ~~wherein~~ further comprising a current limiter ~~limiting means is present~~ connected with the current control unit.

18. (Currently Amended) The electronic measuring device of claim 11, wherein the sensor is adapted to dissipate a power loss due to a power demand excess is dissipated by a controlled output of a pulse ~~by the sensor means without entailing a measurement~~.

19. (Currently Amended) The electronic measuring device of claim ~~1~~ 11, wherein a power loss due to a power demand excess is transformed into heat.

20. (Original) The electronic measuring device of claim 11, wherein a power loss due to a power demand excess is determined through a current sensing resistor within the current control unit.

21. (Currently Amended) A method for operating an electronic measuring device for detecting a process variable connectable to a two-wire line for providing the supply energy and for digital communication with a process control, comprising:

measuring ~~wherein~~ the supply voltage applied through the two-wire line ~~is measured in the measuring device~~, and

modifying ~~the~~ current to ~~for supplying~~ the measuring device ~~is modified~~ in a temporally appropriate manner as a function of the measured supply voltage ~~measure by the voltage measuring device~~ so that the current is adapted corresponding to the actual power demand while allowing digital communication.

22. (Original) The method of claim 21, wherein the voltage drop is measured at a resistor for determining an instantaneous power loss.

23. (Original) The method of claim 21, wherein the power loss instantaneously generated in the measuring device is determined for determining an appropriate power input.

24. (Original) The method of claim 21, wherein said method is realized in a measuring device including a sensor means, in which the distance from the filling product surface of a filling product present in a receptacle is determined by means of ultrasonic pulses.

25. (Original) The method of claim 21, wherein said method is realized in a measuring device including a sensor means, in which the distance from the filling product surface of a filling product present in a receptacle is determined by means of radar pulses.

26. (Currently Amended) A method for operating an electronic measuring device for detecting a process variable connectable to a two-wire line for providing the supply energy and for digital communication with a process control, comprising:

determining current drawn by a sensor;

adapting ~~wherein the~~ total current drawn through the two-wire line by the measuring device to the determined sensor current ~~is adapted by~~ using a current control unit ~~to a sensor current drawn by a sensor means~~ such that the drawn total current is adapted corresponding to the actual power demand within a space of time not detrimental to communication.

27. (Original) The method of claim 26, wherein a loss current in a shunt arm is kept at a minimum.

28. (Original) The method of claim 26, wherein the power loss instantaneously generated in the measuring device is determined for determining an appropriate power input.

29. (Original) The method of claim 28, wherein the temporal development of the voltage at a capacitor connected upstream of the sensor means for measuring the process variable is measured for determining the instantaneous power loss.

30. (Original) The method of claim 28, wherein the frequency of occurrence of sensor excitements is determined without performing a measurement.

31. (Original) The method of claim 26, wherein said method is realized in a measuring device including a sensor means, in which the distance from a filling product surface of a filling product present in a receptacle is measured by means of ultrasonic pulses.

32. (Original) The method of claim 26, wherein said method is realized in a measuring device including a sensor means, in which the distance from a filling product surface of a filling product present in a receptacle is measured by means of radar pulses.

33. (New) A two-wire line, electronic measuring device for detecting a process variable, comprising:

a two-wire terminal;

a sensor operably connected to the two wire terminal and adapted to detect the process variable;

a voltage measuring device operably connected to the two-wire terminal and adapted to measure a supply voltage; and

a current control unit operably connected to the two-wire terminal, the current control unit being adapted to supply current as a function of the supply voltage measured by the voltage measuring device such that the input current meets power demand and allows digital communication.